



## We recommend Installation of this product by a Licensed Plumbing Professional

### ■ BEFORE YOU BEGIN

On tiled wall surfaces, grouting must be either flush or raised for proper sealing of the cover plate.

**IMPORTANT:** It is not necessary to remove the cartridge from the valve during NORMAL soldering operations using propane-butane gas. **DO NOT USE OXYGEN-ACETYLENE.** When soldering connections, do not solder within 4" of valve port. Do not use excessive heat. Open the stop valves when soldering inlets.

It is recommended that the pipes be flushed clean prior to installation, in order to avoid any future problems.

Ensure that the stop ring is properly installed, see below, otherwise a user could potentially disengage the cartridge with minimal force to external handle. This would cause the valve to fail, losing control of flow & temperature.

Make sure valve is securely fastened to studs. Be sure to remove trim items, handles, escutcheons and plates before installation. Wrap carefully and store until finished wall is completed.

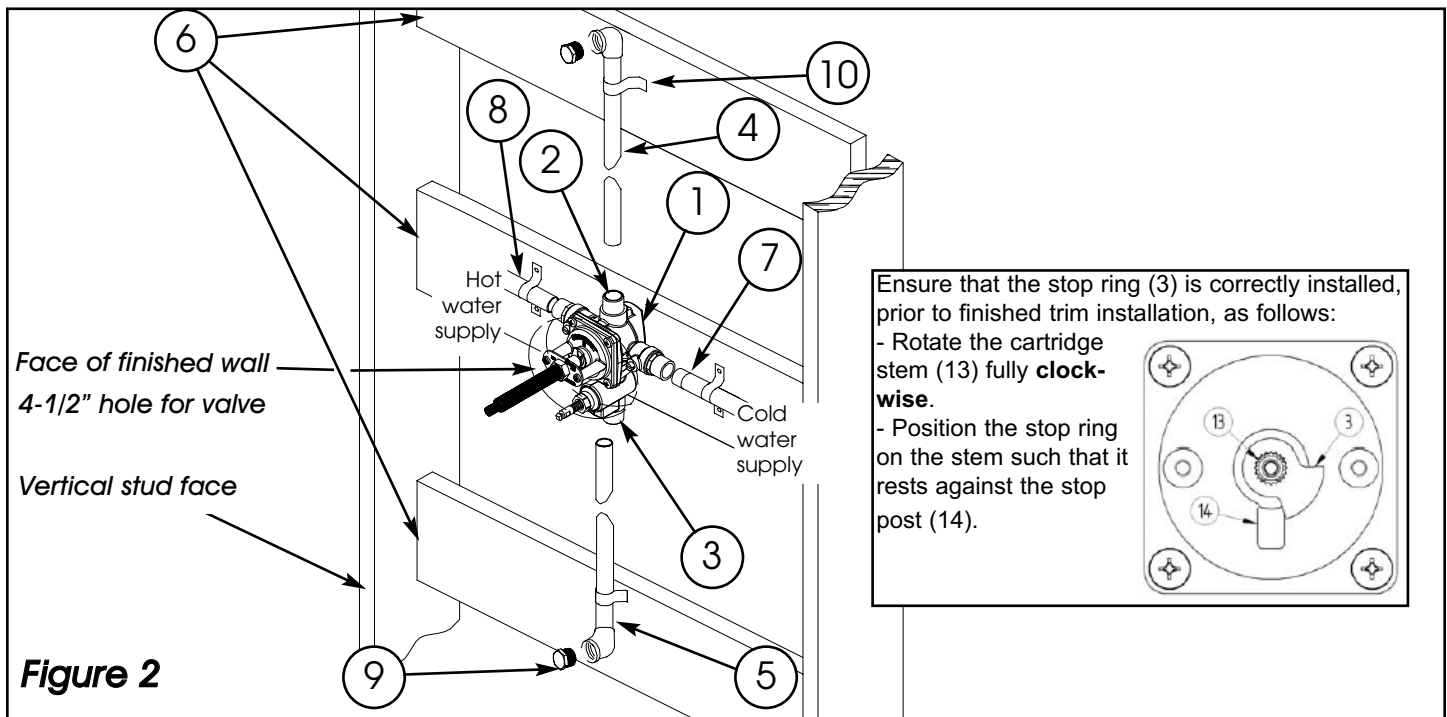
Install the valve by positioning the 1/2" shower outlet in the up position. If installing showerhead & hand shower configuration, plumb showerhead from tub port (T) and hand shower from shower port (S). Finished wall must be within dimensions shown in illustration 2. To test pipe joints, pressurize both hot and cold inlets.

### Valve Installation

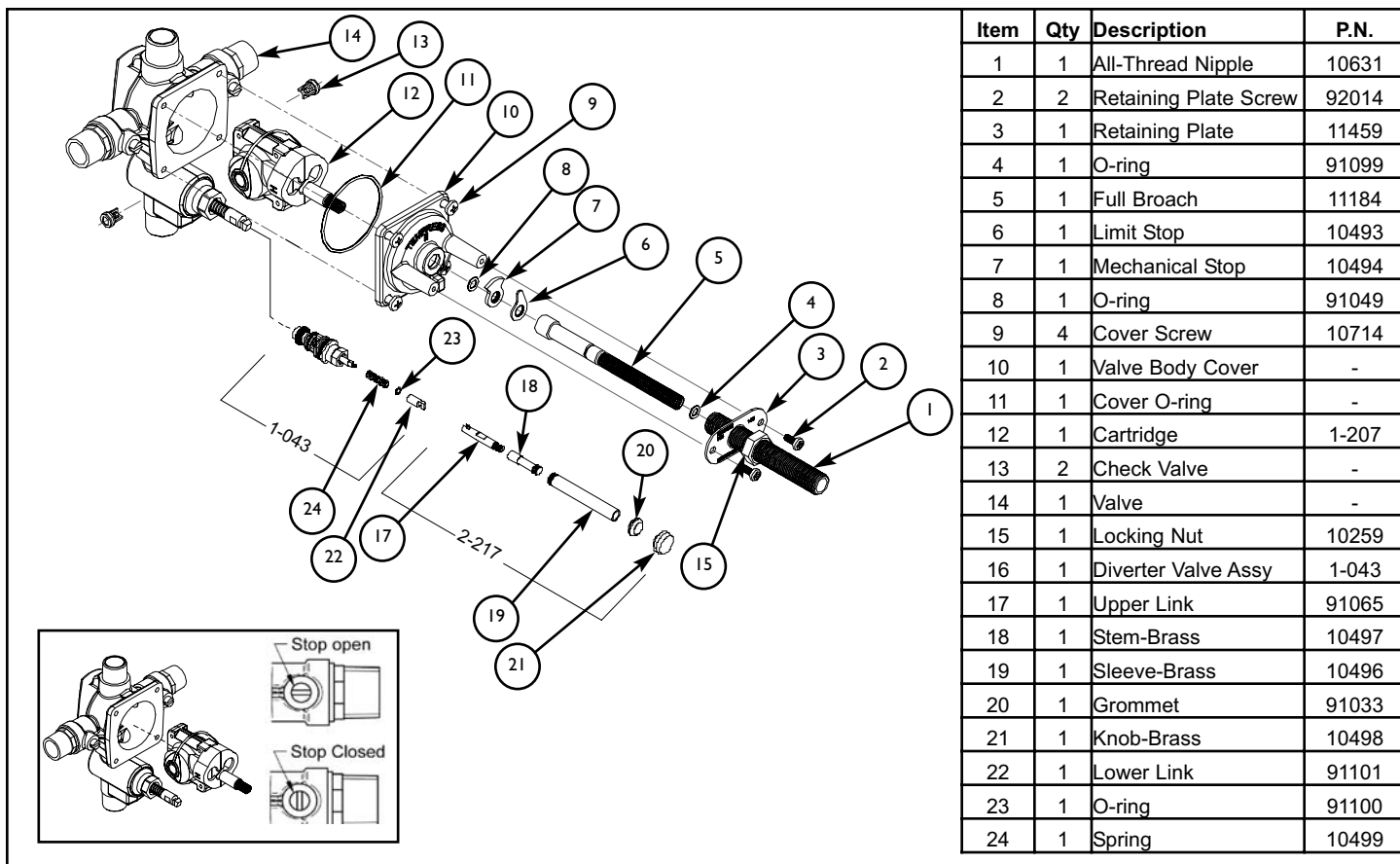
- Position and secure VALVE (1) to cross BRACE (6) with shower "S" OUTLET (2) in the up position and distance from finished wall as mentioned on specification diagram. See Figure 1.
- Connect cold and hot water SUPPLY (7 & 8) to appropriate inlet ports of VALVE (1). Blue for cold and red for hot.
- Connect RISER (4) to VALVE (1) shower "S" OUTLET (2).
- Connect DROP (5) to VALVE (1) tub "T" OUTLET (3).
- VALVE (1) and RISER/DROP/SUPPLY (4, 5, 7, & 8) must be secured to a cross BRACE (6) using plumbing STRAPS (10).
- Attach fittings as required for finished location of shower RISER (4) and bath DROP (5). Bath DROP (5) requires 3/4" NPT fitting at wall for spout installation.
- Secure temporary PLUGS (9), not supplied, into output fittings.
- Turn on both water supplies to valve and check for leaks. **Note:** Water pressure must be applied to both hot and cold inlet ports of mixing valve for proper operation.
- Rotate VALVE (1) stem to both rotational extremes to check for leaks at VALVE (1) and OUTPUT (4, & 5).
- After inspection turn off water supply.

### Installing Trim

- Thread plastic upper link into finished post. Insert assembled post onto end of diverter stem, then slide finished sleeve over attached items and screw sleeve into diverter housing. Place coverplate on valve stem while sliding diverter trim through rubber grommet. Screw on escutcheon trim and mark all-thread nipple where excess needs to be cut off. (NOTE: For stem to be fully seated into cartridge, all-thread nipple and locking nut must be tightly secured against retaining plate.) Place handle on stem. Measure excess between escutcheon and handle base. Remove handle and cut previously measured excess from end of stem. Reinstall handle and tighten set screws. (Refer to Illustrations 2 and 3.)



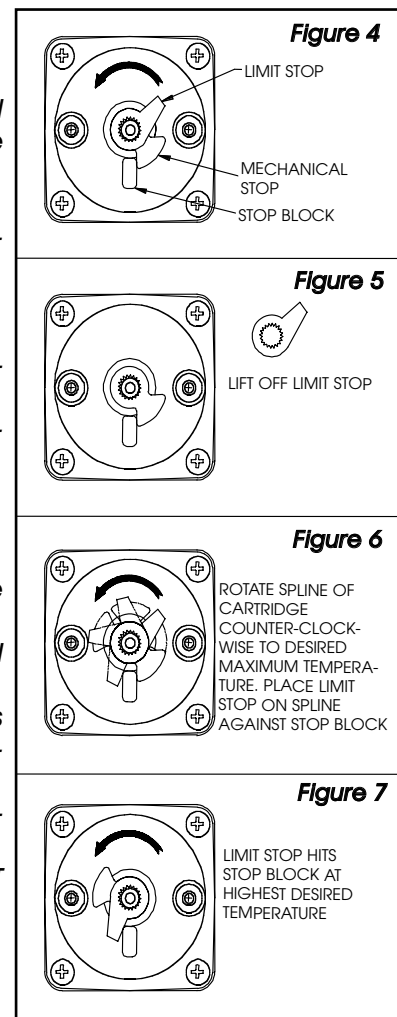
**Figure 2**



## Setting the Temperature Limit Stop

This valve has an upper temperature LIMIT STOP (1), which can allow desired and safe hot water temperature (recommended maximum is 110°F). This stop may be adjusted once the valve is installed.

- Before making this adjustment, run the water with the valve turned to the hot setting. If the water temperature is too high in this position, then perform the following adjustments:
- If installed, remove the trim (handle, escutcheon and cover).
- Remove the ALL-THREAD (13), retaining SCREW (16), retaining PLATE (12).
- Remove the broach STEM (14) and the LIMIT STOP (1). **Do not** remove the MECHANICAL STOP (2).
- If for any reason the MECHANICAL STOP (2) or the CARTRIDGE (4) is removed, the following steps must be performed:
  1. Close the valve by turning the stem of CARTRIDGE (4) clockwise until it stops, (Do not forcefully rotate).
  2. Position the MECHANICAL STOP (2) on stem of CARTRIDGE (4) against the stop block located on valve COVER (8) as shown in Figure 5 and continue with the following steps.
- From the CLOSED position, rotate the stem of CARTRIDGE (4) counter-clockwise until the desired temperature is achieved.
- Place the LIMIT STOP (1) on the stem of CARTRIDGE (4) against the stop block as shown in Figure 7. Rotate several times to make sure the stop is at the desired temperature setting.
- Replace the broached STEM (14), retaining PLATE (12) and retaining SCREW (16), ALL-THREAD (13) and locking NUT (11).
- **Note:** For stem to be fully seated into cartridge, ALL-THREAD (13) and locking NUT (11) must be tightly secured against retaining PLATE (12).



\* **WARNING** - Never try to stop dripping by applying extreme force or over tightening the handle.

<b>MALFUNCTION</b>	<b>CAUSE</b>	<b>REMEDY</b>
Opening immediately to hot water.	Hot and cold water supplies have been connected in reverse.	Rotate cartridge. (See Page 3)
Water drips after shutting off the	Residual water in valve and piping.	Allow approximately 3-8 minutes to drain.*
	Incorrect setting of the mechanical stop against the stop block causing a partially opened cartridge.	Reset the mechanical stop. (See Page 3)
	O-ring seal on the inlet of the cartridge is faulty or seat assembly is damaged.	Check the O-ring & seat for cuts or over-heating damage during installation. Replace if necessary.
Water insufficiently hot.	Adjustable handle position stop incorrectly set.	Refer to the instruction on "Setting Temperature Limit Stop".
Valve body too deep into wall.	The measured rough in or finished wall surface is incorrect.	Reset the valve.
Diverter will not stay on during shower.	Not enough back pressure between showerhead and diverter valve.	Flow restricter @ shower head 2.5 GPM
No or low flow of hot or cold water.	Either the hot or cold side is not fully pressurized.	Verify that all service stops for both the hot and cold are fully open and pressurized.
	Debris caught inside the inlet of the cartridge.	Remove the cartridge (See Page 3). If debris is lodged in the inlet of the cartridge or check the valve located in the cast valve body. The debris can be removed with a straightened paper clip or fine wire. Gently insert the wire and move it in a circular motion to dislodge any debris.